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March 24, 2005

South Carolina Public Service Commission
Attn: Docketing Department
Post Office Box 11649
Columbia, South Carolina 29211

Re: Application of Chem-Nuclear Systems, LLC (SCPSC Docket No. 2000-366-A)
(Fiscal Year 2004-2005 Proceeding)

Dear Sir or Madam:

Enclosed herewith for filing with the Commission, please find twenty-five (25) copies of the prefiled Direct Testimony of Regan E. Voit and of James W. Latham on behalf of Chem-Nuclear Systems, LLC, a Division of Duratek, Inc., which testimony is filed pursuant to the Commission's letter dated January 12, 2005 in the above-captioned docket.

Should you have any questions with respect to this testimony, please do not hesitate to contact me.

Very truly yours,

Robert T. Bockman

Enclosures

cc: David K. Avant, Esquire
The Honorable Max K. Batavia
The Honorable Henry D. McMaster
Hana Pokorna-Williamson, Esquire
Florence P. Belser, Esquire
Benjamin P. Mustian, Esquire
Frank R. Ellerbe, III, Esquire

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BEFORE

THE PUBLIC SERVICE COMMISSION

OF

SOUTH CAROLINA

Docket No. 2000-366-A

(Year 2004-2005 Proceeding)

DIRECT TESTIMONY

OF

REGAN E. VOIT

FOR
CHEM-NUCLEAR SYSTEMS, LLC,
A DIVISION OF DURATEK, INC.

Q. **PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

My name is Regan E. Voit. My business address is 140 Stoneridge Drive, Columbia, South Carolina. I am employed by Chem-Nuclear Systems, LLC ("Chem-Nuclear") and serve as its President.

Q. **PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.**

A. I graduated from the University of Virginia with a degree in aerospace engineering and received my MBA from the University of South Carolina. From 1972 to 1976, I served as a United States Naval officer on nuclear submarines. From 1976 to 1980, I worked for the United States Department of Energy at the Savannah River site. My responsibilities

there were regulatory oversight of the reactor operations conducted at that facility. These first eight years of my nuclear industry career provided experience about radioactive waste issues from a waste generator's point of view. The next 25 years of my career have been in the radioactive waste management industry.

Q. **PLEASE DESCRIBE YOUR GENERAL DUTIES AND RESPONSIBILITIES.**

A. From 1980 to 1982, I was employed as a project manager for radioactive decontamination services by Chem-Nuclear. I was responsible for introducing personnel training and technician certification programs for field operations, and establishing detailed operational procedures to refine decontamination services. From 1982 to 1986, I worked as director of waste management services for a new company named NUS Process Services Corporation. There, I established administrative and quality assurance policies. From 1986 to 1989, I worked as vice president of operations for LN Technologies, a provider of services for chemical decontamination and chemical cleaning of radioactive systems, radioactive waste processing, and radioactive waste transportation. In 1990, I returned to Chem-Nuclear as director of projects with responsibility for the financial and technical performance of the major site remediation and decontamination/decommissioning projects performed for the federal government. In 1991, I took responsibility for the financial and technical performance of Chem-Nuclear's field services, where our technicians process, package and transport waste for disposal. In 1993, the financial and technical performance of Chem-Nuclear's radioactive and hazardous waste processing facility in Kingston, Tennessee, was added to my field services responsibilities. In 1995, I was promoted to President of Chem-Nuclear.

I have been an active participant in many professional activities and associations over the years, including the American Nuclear Society, the Nuclear Energy Institute, and the Waste Management Conference Program Advisory Committee. I have served on the South Carolina Chamber of Commerce Board of Directors, on the Executive Committee for Excellence in Education, and as chairman of the Executive Advisory Committee for the South Carolina Quality Forum. I have also served as a business community representative at the request of our State Superintendent of Education on five advisory committees: the School Accreditation Advisory Committee, the Teacher Education Performance-Based Standards Committee, the 2000 Vision Steering Committee, the Governor's Workforce Education Interim Planning Committee, and a sub-committee of Governor Sanford's 2003 Management, Accountability and Productivity Commission.

Q. **HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?**

A. Yes. I have testified on behalf of Chem-Nuclear in each of the Company's proceedings before the Commission in this docket.

Q. **WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. I will provide a brief background on Chem-Nuclear and on the general process we have used in this proceeding for identifying the allowable costs associated with our low level radioactive waste disposal business. Finally, I will outline our method of presenting our testimony in this proceeding.

Q. **PLEASE DESCRIBE BRIEFLY THE STATUTORY AND REGULATORY BACKGROUND FOR CHEM-NUCLEAR'S APPLICATION THAT IS THE SUBJECT OF THIS HEARING.**

A. This hearing is the fifth one that the Commission has conducted in this docket to fulfill its responsibilities under the "Atlantic Interstate Low-level Radioactive Waste Compact Implementation Act" of 2000. As required by the Act, the Commission has held formal proceedings annually and published orders after hearings in this docket by which the Commission has identified Chem-Nuclear's "allowable costs." By that determination as provided by the Act, Chem-Nuclear is able to recover the costs that it incurs for its operations in the disposal of low-level radioactive waste at its Barnwell site.

Over the previous four hearings and as the Commission's orders demonstrate, the Commission has relied on the evidence to make numerous determinations with respect to which of our costs are to be properly considered as "allowable," and the Commission has consistently refined its decisions on the issues. As a consequence, many of the issues that the parties and the Commission addressed in previous proceedings have been resolved and the orders represent the precedents upon which we have relied in preparing our Application and evidence in this case.

Q. **PLEASE EXPLAIN THE GENERAL CONCEPT THAT CHEM-NUCLEAR'S APPLICATION AND EVIDENCE EMBODY IN THIS PROCEEDING?**

A. Our Application and our evidence in this case represent an approach that differs from that in our previous cases. Our approach in this proceeding incorporates fully the separation of costs into three categories that was incorporated in the Collaborative Review of Chem-

Nuclear's Operations and Efficiency Plan that the Commission approved and which the Commission has directed Chem-Nuclear to use by previous orders in this Docket. Those categories are fixed costs, variable costs and irregular costs. Moreover, our Application and evidence also reflect the full use of the accounting system that the Commission previously approved and which enables us to capture and track the separated costs as we incur them and incorporate the data effectively in our monthly data and in our exhibits to the Application and our evidence.

The actual data collected in the three cost categories for Fiscal Year 2003-2004 for the most part validate the costs identified in the Collaborative Review. And, where necessary, the data provides information to adjust the costs to reflect actual operations experience so that future costs can be predicted more accurately. Our testimony will identify the areas where we are seeking adjustments for Fiscal Year 2003-2004.

Q. **WOULD YOU PLEASE DESCRIBE THE MANNER IN WHICH CHEM-NUCLEAR TREATS "ALLOWABLE COSTS" UNDER THE REGULATORY PROCESS ESTABLISHED BY THE ACT?**

A. Yes. Chem-Nuclear's method for seeking adjustments to the costs identified by the Commission in its orders is different from the regulatory treatment of other regulated entities. First of all, the Act does not provide that the Commission determine our revenue requirements, including rate of return, based on a test year and fix our rates or charges to enable Chem-Nuclear to recover its revenue requirements. Under the Act, the Commission is not responsible to evaluate our revenue or fix rates and charges. The Act empowers the Commission to identify our "allowable costs," including a statutory margin

on some costs that we are to recover by deducting the total of those costs from the annual fee that we pay to the State for operation of the Barnwell site.

At the end of each fiscal year, we compare the costs that we actually incurred to operate the site to the costs previously identified as allowable in the Commission's order for that year. We only use the actual costs incurred as the amount that we request the Commission to identify as allowable in the following proceeding and to evaluate the fee that Chem-Nuclear earns in any fiscal year. That means that if we do not actually spend as much as the Commission has allowed for a particular cost category, then we only use the actual amount spent in calculating the fee for Chem-Nuclear at the end of the year. If we were to spend more than the identified amount, we apply to the Commission to recover the extra cost and fee associated with it in the subsequent fiscal year. Chem-Nuclear carries the costs for a year or more until the Commission rules on our Application to recover them.

Q. **WOULD YOU PLEASE EXPLAIN HOW THE PROCESS WORKS BY USE OF AN EXAMPLE?**

A. Vault cost recovery is a good illustration of the method. Each year the Commission determines a variable vault cost rate for vaults that are dependent on the number of cubic feet of waste in four classifications received at the site. That "variable vault rate" can be used to forecast the vault costs in the next year, based on the volume of waste received. However, it is difficult to predict accurately what volume and mix of waste will be received in any given year. Therefore, the variable vault cost rate will sometimes forecast a dollar amount for vault costs that is in excess of the actual amount spent. In such cases,

the actual amount spent is used to determine Chem-Nuclear's cost recovery and fee, not the higher amount forecast by the variable vault cost rate. If the situation were reversed, that is, if the vault costs exceeded the level previously identified by the Commission, Chem-Nuclear would seek to recover the additional amount that we actually spent as part of the application for allowable cost recovery for the subsequent fiscal year.

Q. **WOULD YOU PLEASE INTRODUCE HOW CHEM-NUCLEAR WILL PRESENT TESTIMONY IN THIS PROCEEDING?**

A. Yes. Jim Latham, our Vice President of disposal operations at the Barnwell site, will present testimony on the following topics:

- Changes to our amended application that resulted from preparation of responses to questions from the South Carolina Budget and Control Board Staff and from the Office of Regulatory Staff audit;
- Fiscal Year 2003-2004 fixed costs adjustment;
- Irregular costs identification for Fiscal Year 2003-2004; and
- Request for Fiscal Year 2004-2005 fixed, variable, and irregular costs.

Q. **DOES THAT CONCLUDE YOUR TESTIMONY?**

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA

Docket No. 2000-366-A

IN RE: Application of Chem-Nuclear Systems, LLC, a Division of Duratek, Inc., for Adjustment in the Levels of Allowable Costs and for Identification of Allowable Costs

CERTIFICATE OF SERVICE

I, ElizaBeth A. Blitch, do hereby certify that I have this date served one (1) copy of the Prefiled Direct Testimony of Regan E. Voit and of James W. Latham upon the following parties of record by causing said copies to be deposited with the United States Mail, first class postage prepaid and addressed as follows:

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March 24, 2005
Columbia, South Carolina

173306

BEFORE

THE PUBLIC SERVICE COMMISSION

OF

SOUTH CAROLINA

Docket No. 2000-366-A

(Year 2004-2005 Proceeding)

DIRECT TESTIMONY AND EXHIBITS

OF

JAMES W. LATHAM

FOR
CHEM-NUCLEAR SYSTEMS, LLC,
A DIVISION OF DURATEK, INC.

Q. **PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION WITH CHEM-NUCLEAR.**

A. My name is James W. Latham. My business address is 740 Osborn Road, Barnwell, South Carolina. I am employed by Chem-Nuclear Systems, LLC, a wholly owned subsidiary of Duratek, Inc. I am Vice-President for Barnwell Operations for Chem-Nuclear.

Q. **PLEASE DESCRIBE YOUR GENERAL DUTIES AND RESPONSIBILITIES FOR CHEM-NUCLEAR.**

A. As Vice President for Barnwell Operations, I am responsible for the safe and proper disposal of low-level radioactive waste received at the disposal facility in accordance

with the Company's South Carolina Radioactive Material License. I am also responsible for management, supervision and administration of disposal operations personnel, equipment and buildings. I am frequently a key point of contact between the Company and local community leaders and members of the public. I have been in my current position in Barnwell since July 1996.

Q. **PLEASE DESCRIBE YOUR EDUCATIONAL TRAINING AND PROFESSIONAL EXPERIENCE.**

A. I graduated from the United States Naval Academy with a Bachelor of Science degree. I served in the United States Navy for twenty years in various assignments associated with nuclear submarines. I have worked for Chem-Nuclear since 1989. From 1989 to 1991, I was a project manager planning and directing various field projects for Chem-Nuclear. I was assigned to the Company's new disposal site development office in Harrisburg, Pennsylvania, from 1991 to 1996. During my five years in the Pennsylvania Project Office, I held a number of positions including engineering director, deputy project manager, and acting project manager. I have been at the disposal facility in Barnwell since July 1996, first as General Manager for Disposal Operations and then as Vice-President for Barnwell Operations.

Q. **HAVE YOU TESTIFIED PREVIOUSLY BEFORE THE COMMISSION?**

A. I previously provided testimony in the proceeding regarding disposal site allowable costs in April 2002.

Q. WHAT ARE THE PURPOSES OF YOUR TESTIMONY TODAY?

A. My testimony provides evidence to the Commission about the disposal site and facility operations as they relate to disposal of low-level radioactive waste at the facility located in Barnwell County, South Carolina.

My testimony also describes the most significant adjustments and principal differences in categories of costs between the costs that we actually incurred in Fiscal Year 2003 –2004 and the allowable costs identified in Order No. 2004-349.

Finally, my testimony describes the costs that Chem-Nuclear is requesting the Commission to identify as allowable for Fiscal Year 2004-2005.

Q. **PLEASE DESCRIBE THE DISPOSAL SITE.**

A. Chem-Nuclear operates a low-level radioactive waste (LLRW) disposal facility located approximately five miles west of the City of Barnwell in Barnwell County, South Carolina. The closest municipality to the disposal site is the Town of Snelling. Chem-Nuclear has operated the disposal site continuously since 1971 with no interruptions or regulatory shutdowns. Our disposal operations have evolved over thirty-four years. We are proud of what we have learned and we are proud of our safety record.

The disposal site comprises approximately 235 acres of property that Chem-Nuclear purchased and sold to the State of South Carolina as part of a 99-year lease agreement for Chem-Nuclear to develop and operate a low-level radioactive waste disposal site. The licensed disposal area is divided based on the uses of the areas, including active trenches, completed trenches, potential trench areas, and ancillary facility, water management and buffer zone areas. Of the 235 acres, approximately 105

acres have been used for disposal since 1971. Approximately ten acres remain for disposal in existing trenches or trenches that may be constructed in the next few years. The remaining 120 acres include buffer zone area, water basins, and space for support operations. Approximately 97 acres of completed trenches have been capped with multi-layer earthen caps consisting of layers of compacted clay, bentonite, high-density polyethylene, sand, cover soils, topsoils and shallow-rooted vegetation.

Q. **DO YOU HAVE PHOTOGRAPHS WHICH PROVIDE DEPICTIONS OF THE SITE?**

A. I have provided several exhibits which illustrate key features of the disposal site. Exhibit No. JWL-1 is a high altitude aerial photograph of the disposal site taken in 2000. In Exhibit No. JWL-1, the active trenches can be seen as well as the completed multi-layer trench caps. Other use categories such as water management features and buildings/support structures are also visible. Exhibit No. JWL-2 is a lower altitude aerial photograph taken in December 2004. Exhibit No. JWL-3 is a land-level photograph of Trench 86 taken from the western end of the trench looking toward the east in 2004. Exhibit No. JWL-4 is a land-level photograph of a Class B/C trench.

Q. **WHAT IS THE IMPORTANCE OF A TRAINED AND EXPERIENCED WORKFORCE AT THE FACILITY?**

A. The disposal site could not be operated properly without an experienced and talented group of employees. They are critically important to the safe and environmentally compliant operation of the disposal site. Many of Chem-Nuclear's employees at the disposal site have been with the company for twenty years or more. Attracting and

retaining high quality, well-motivated personnel are integral parts of successful, safe and regulatory compliant disposal of LLRW.

Q. **WHAT ARE THE ADJUSTMENTS TO COSTS IN THE COMPANY'S APPLICATION IN THIS PROCEEDING?**

A. I shall describe the most significant adjustments and principal differences in categories of costs between the costs that we actually incurred in Fiscal Year 2003–2004 and the costs identified as allowable in Commission Order 2004-349 for that fiscal year.

Q. **FIRST, WERE THERE SOME CORRECTIONS TO THE EXHIBITS IN CHEM-NUCLEAR'S ORIGINAL APPLICATION?**

A. Yes. During our preparation of responses to interrogatories from the South Carolina Budget and Control Board Staff and during the audit by the Office of Regulatory Staff, we identified certain costs in our original Application that required clarification or correction. On January 28, 2005, we submitted three amended exhibit pages. Subsequent to that submittal, we identified some errors on those pages. Exhibits No. JWL-5, JWL-6, and JWL-7 provide corrected pages that identify amounts requested for fixed, variable and irregular allowable costs for Fiscal Year 2003–2004. The total impact of these corrected amounts from the amended Exhibits to our Application is a reduction of $16,132.93 in the total amount of costs that we are requesting the Commission to identify as allowable for Fiscal Year 2003-2004. We have previously furnished the corrected amounts to the Office of Regulatory Staff for the purposes of its audit.

Q. **PLEASE DESCRIBE CHEM-NUCLEAR'S PROPOSAL FOR IDENTIFICATION OF ALLOWABLE FIXED COSTS.**

A. Exhibit JWL-5 provides the amount of actual fixed costs incurred in Fiscal Year 2003-2004. Actual fixed costs incurred in Fiscal Year 2003-2004 were $182,179 more than the fixed costs identified in Order No. 2004-349. The primary reason is that the Management Fees/G&A allocation portion of the 2003-2004 fixed costs identified in that Order for Fiscal Year 2003-2004 was $138,418 lower than the amount the Commission had identified as allowable in the previous year (Fiscal Year 2002-2003).

The amount is also low using the method adopted by the Commission Staff for allocating the actual corporate Management Fees/G&A for Fiscal Year 2002-2003. That method results in Management Fee/G&A allocation of $892,551, which is the amount we are requesting that the Commission identify in this case as the allowable cost for the Corporate Management Fees/G&A allocation portion of the fixed costs for Fiscal Year 2003-2004.

Chem-Nuclear's parent company, Duratek, allocates monthly the actual amount of corporate Management Fees/G&A among its operating divisions based on the total cost incurred by each operating division during that month. This method of allocating Management Fees/G&A was recommended to the Commission Staff in prior years and the Commission has adopted it in its decisions.

Q. **PLEASE DESCRIBE CHEM-NUCLEAR'S PROPOSAL FOR IDENTIFICATION OF ALLOWABLE VARIABLE MATERIAL (VAULT) COSTS.**

A. Exhibit JWL-6 provides the amount of actual variable costs incurred in Fiscal Year 2003-2004 for routine disposal vaults. The actual costs incurred for concrete disposal vaults

used to dispose of routine waste shipments were $86,984 more than the amount calculated using rates identified as allowable in Order No. 2004-349.

Costs incurred each year for concrete disposal vaults are affected by a number of factors, including the size and shape of waste packages received and the number and size of vaults used for routine waste disposal. Exhibit JWL-9 provides additional information about various factors affecting the amount of waste that can be placed in vaults in each of the disposal trenches.

Each year, variable material cost rates (in dollars per cubic foot) for concrete disposal vaults have been developed for Class A waste, Class B waste, Class C waste, and slit trench waste. Those rates can then be used as one factor to predict the cost of vaults for the following year, based on assumptions about various volumes of waste received in each waste classification and slit trench waste volumes. However, once the fiscal year ends, the actual costs for the disposal vaults become known.

We are requesting that the amount of $1,282,258.95, which we actually incurred in Fiscal Year 2003-2004, be identified as the allowable cost for concrete disposal vaults used for routine shipments of radioactive waste in this proceeding.

Q. **PLEASE DESCRIBE CHEM-NUCLEAR'S PROPOSAL FOR IDENTIFICATION OF ALLOWABLE VARIABLE LABOR COSTS.**

A. Order No. 2004-349 identified variable labor rates associated with the purchase, inspection and placement of disposal vaults; handling of Class A, Class B and Class C waste shipments; slit trench offload operations; waste acceptance; and waste shipment scheduling and disposal records maintenance. Each of those rates is associated with an independent variable (number of vaults, number of shipments buried, number of slit

trench offloads, or number of waste containers buried). The variable labor rates identified in Order No. 2004-349 estimated variable labor costs within about 15% of the variable labor costs that we actually incurred. We have requested that the Commission identify the actual cost of $560,001, as depicted in Exhibit JWL-6 as the allowable variable labor amount for Fiscal Year 2003 – 2004. That amount is $83,099 less than the amount calculated using the rates identified in Order No. 2004-349.

Q. **PLEASE DESCRIBE CHEM-NUCLEAR'S PROPOSAL FOR IDENTIFICATION OF ALLOWABLE IRREGULAR COSTS.**

A. Irregular costs are costs incurred for projects that may not occur each year or costs for projects that occur each year but for which the costs vary. Each year expected irregular cost projects involving varying costs include insurance costs, trench construction, site engineering and drawing updates, and other site construction projects. Examples of irregular cost projects that may not recur each year, but which generate varying costs, are large or oversized component disposal, site assessments and license renewal proceedings and hearings.

At the time that the Commission issues an order, not all irregular costs are known and measurable. Exhibit No. JWL-7 lists actual irregular costs (labor and non-labor) incurred in Fiscal Year 2003-2004 compared to the irregular costs identified as allowable in Order No. 2004-349. The total costs that we actually incurred for irregular cost projects during Fiscal Year 2003–2004 were $2,684,909, the amount that we are requesting the Commission to identify as allowable in this proceeding.

Q. **PLEASE COMPARE THE ACTUAL COSTS INCURRED FOR PROJECTS INVOLVING IRREGULAR COSTS WITH THE FORECASTED ESTIMATES OF IRREGULAR COSTS FOR FISCAL YEAR 2003-2004.**

A. One irregular cost project was the disposal of large or over-sized components. In Fiscal Year 2003-2004, Reactor Pressure Vessels (RPV) from Big Rock Point Station and Connecticut Yankee Atomic Power Company were disposed. The costs for those two projects are summarized in Exhibit JWL-7. Costs to dispose of the Connecticut Yankee RPV were $7,239.59 less than the amount identified in Order No. 2004-349. Costs to dispose of the Big Rock Point RPV were $1,076.45 more than the amount identified in the Order. Exhibit JWL-10 describes and compares on-site movement and disposal of those two large components. A comparison of the size of the two RPVs and the equipment required to move each one on the disposal site explains the difference in costs incurred for those projects.

Costs to dispose of other large components (Connecticut Yankee Regenerative Heat Exchanger (RHX), four Reactor Coolant Pumps (RCPs), six Rebound Stop Magnet Assembly (RSMA) boxes and six leadscrew boxes) were not known at the time of last year's audit and were therefore not included in the evidence in the last proceeding or in Order No. 2004-349. The total costs incurred to dispose of these large components was $99,874.14.

Actual costs incurred for the West Swale storm water control project were $12,727.65 more than the amount identified in Order No. 2004-349.

Actual costs for construction of Trench 96 were $37,955.31 less than the amount identified in the last proceeding. Actual costs for the Trench 86 modifications (for storm

water management concurrent with continued trench operations) were $17,318.82 less than the amount identified in the last proceeding.

Anticipated costs for construction or modification of several trenches were not included in the last case because they were not known. The actual costs that we incurred for Trench 94 modifications, Slit Trenches 21, 22, 23, and 24, and the start of Trench 97 were $71,628.99.

We anticipated that the costs for the project to connect the disposal site buildings to a new nearby public water supply and sewer system would be $136,786. Actual costs for that project represent a capital expense for Chem-Nuclear and are included in depreciation expenses starting in Fiscal Year 2004-2005. Therefore, no costs were assigned to irregular costs for that project in Fiscal Year 2003-2004.

Actual depreciation costs in Fiscal Year 2003-2004 were $8,131.21 more than the costs identified in the last case. Depreciation is an irregular cost because the amount changes each year as assets are added or retired.

Insurance, or the cost for insurance policy premiums, is one of the varying costs in the category of irregular costs. The following table outlines the costs for these various policy premiums and compares the costs incurred in the past two years. Insurance costs in Fiscal Year 2003-2004 were $204,380.46 more than the insurance costs identified in the last case. The following table illustrates the differences in actual individual policy premium costs between the two years:

Insurance	FY 2002-2003	FY 2003-2004
Automobile	$20,831.59	$17,403.99
General Insurance	$101,483.84	$141,620.46
Nuclear Policy	$278,859.60	$309,952.44
Nuclear Property	$83,090.43	$197,164.70
Non-Nuclear Policy	$98,861.16	$132,986.12
Nuclear Liability (Pollution Legal Liability)	$142,080.00	$142,080.00
Prior Period Adjustment	($2.44)	$93.75
Nuclear Policy Credit		($11,716.00)
Total	$725,204.18	$929,585.46

Although Exhibit A, page 3 to our Application identifies the amount of $941,301.46 for insurance premiums, a credit of $11,716 for the Nuclear Policy was identified after the Application was submitted and amended. That credit reduces the total insurance premium cost that Chem-Nuclear has requested that the Commission identify as allowable for Fiscal Year 2003-2004 to $929,585.46.

Costs incurred for decontamination efforts and corrective actions as a result of damaged waste packages were not included in the last case. The actual costs of $20,567.76 that we incurred are in addition to the amounts identified as irregular costs in the last case.

Site engineering and drawing updates include three primary endeavors: (1) update of all environmental monitoring system drawings, (2) trench backfill evaluation and design alternatives evaluation, and (3) vault stability evaluation. The actual costs of $57,204.50 were not known and measurable at the time of last year's proceeding and were not included as allowable in that case.

Miscellaneous irregular projects included costs for activities related to implementation of the Environmental Radiological Performance Verification (ERPV)

recommendations and reporting those actions to the South Carolina Department of Health and Environmental Control. Those projects also result in costs for work related to fuel pins that were first reported as "missing" and then later reported as "found" by Vermont Yankee. Cost for review and disposition of records and an evaluation of the suitability of the southeast area of the site are also included in this category. Taken together, the costs for these miscellaneous irregular projects were $25,736.60 and were not part of the costs identified in the last case because they were not known at the time.

Costs associated with the disposal site license renewal and the subsequent appeal were unknown at the time of the last case. The actual costs that we incurred for these irregular projects in Fiscal Year 2003-2004 were $24,452.07.

Costs to prepare several reports requested by the Staff of the South Carolina Budget and Control Board were tracked as costs for an irregular projects. One example of the reports was a consolidated spreadsheet of invoice data and radioactive shipment data integrated with collections data. Those costs were not identified in the last case and the actual costs incurred in Fiscal Year 2003–2004 were $8,708.88.

Other irregular costs include the costs for representatives of Project Time and Cost, Inc., to participate in last year's proceeding and the costs for a Quality Assurance consultant who was employed to complete a number of internal audits and surveillances to meet regulatory and external audit expectations. Costs for those irregular costs were not identified in the last case. Actual costs incurred for those services were $54,311.09.

Q. **WERE THERE ANY MORE ADDITIONAL IRREGULAR COSTS INCURRED?**

A. Yes. Additional irregular costs not included in the irregular costs identified in Order No. 2004-349 included machinery and equipment rental and lease expenses for various items,

including a 140-ton lattice boom crane and a 40-ton hydraulic crane (to replace older company-owned units that could no longer be economically or safely repaired), an electrical generator, and a forklift. Costs for direct materials such as slings, plastic, protective clothing and subcontractor support for slit trench operations and other waste disposal operations were also included among those additional irregular costs. Those costs were not previously identified for inclusion in the variable material (vault) cost rate specified in Order No. 2004-349. The total additional irregular costs incurred in Fiscal Year 2003–2004 were $480,132.03.

Two adjustments were made at the suggestion of the Commission Staff during its previous audit. The adjustments involved costs for prior year trench construction and should be considered together and listed on the exhibit for Fiscal Year 2003-2004. For the first adjustment, the Commission Staff identified an over amortization that resulted in net reduction in costs of $21,798.02. The second adjustment of $16,457.60 in trench design and construction costs was identified. The net effect of those two prior-year adjustments is a reduction in cost of $5,340.42 for irregular costs in Fiscal Year 2003–2004.

Q. **WOULD YOU PLEASE EXPLAIN OTHER CLARIFICATIONS OR CHANGES TO CHEM-NUCLEAR'S APPLICATION?**

A. Materials or wastes generated as a result of site operations are generally disposed inside concrete disposal vaults. Those materials include: blocking and bracing materials used in radioactive material shipments received at the disposal site, disposable Personnel Protective Equipment, plastic shoe covers, plastic bags, rags, vacuum cleaner residue, and other similar materials. Most of the site-generated waste is classified as Dry Active Waste (DAW). In some cases, the volume of the DAW to be disposed in vaults can be

reduced by compacting the waste with a box compactor. In other cases, the material itself, its dose rate or its contamination level may preclude compacting. As a cost savings measure in Fiscal Year 2003–2004, we initiated an effort to reduce the volume of site-generated DAW by compacting some of those materials using a box compactor located at a nearby Duratek facility. This activity resulted in fewer vaults required for the disposal of site generated DAW and therefore a $24,486 lower cost for concrete disposal vaults than otherwise would have been incurred in Fiscal Year 2003-2004. Exhibit JWL-11 provides a detailed table showing the basis for this cost savings activity. The cost for this processing was $25,534.50. This amount is included in the Additional Irregular Non-labor Costs of $480,132.03 shown in Exhibit JWL-7.

Q. **WERE THERE ANY IRREGULAR COSTS INCURRED THAT WERE NOT SUBJECT TO THE 29% OPERATING MARGIN?**

A. Yes. There were three irregular costs not subject to the 29% Operating Margin. The retention compensation plan was approved in Order No. 2003-188. The cost for the plan in Fiscal Year 2003-2004 was $83,541.84. Those actual costs were $5,822.16 less than the amount identified in the Commission's Order. Another irregular cost not subject to the 29% Operating Margin was the cost for legal support for the defense of the renewal of our license, which DHEC approved, in an appeal filed by third parties. This irregular cost category was not included in the 2004 proceeding because the appeal had not been filed at that time. The last irregular cost in this category was for legal costs incurred to defend the Company in an Equal Employment Opportunity issue in which the Company prevailed. This irregular cost of $17,913.28 was also unknown at the time of the 2004 proceeding. Exhibit JWL-7 lists each of these irregular costs, which total $128,111.50.

Q. **PLEASE TURN TO FISCAL YEAR 2004-2005 AND EXPLAIN CHEM-NUCLEAR'S PROPOSALS FOR ALLOWABLE COSTS.**

A. Costs proposed for Fiscal Year 2004–2005 are provided in Exhibit JWL-8. A summary explanation of the development of the proposed costs and rates is provided in Exhibit JWL-12.

Q. **PLEASE EXPLAIN THE PROPOSED FIXED COSTS.**

A. The fixed labor costs proposed for Fiscal Year 2004–2005 are based on actual fixed labor costs incurred in Fiscal Year 2003–2004, with the application of a normal labor increase of 3.5%. Non-labor fixed costs for Fiscal Year 2004-2005 were based on actual non-labor fixed costs incurred in Fiscal Year 2003–2004, plus the additional costs included in irregular costs for FY 2003–2004 and proposed to be included in fixed costs for Fiscal Year 2004–2005 and following years. Those additional non-labor costs of $230,410.52 include cost for machinery and equipment rental/leasing, miscellaneous direct materials, and some outside contract expense. Non-labor costs were increased by 2% from Fiscal Year 2003–2004 to Fiscal Year 2004-2005. Corporate Allocations (G&A) were increased by 3.5% from actual costs incurred in Fiscal Year 2003–2004 to Fiscal Year 2004–2005 because many of the allocated costs are labor-related at the corporate level. Fixed costs to which the statutory 29% margin does not apply (intangible asset amortization) do not increase from one year to the next.

Total fixed costs proposed for Fiscal Year 2004–2005 are $5,835,261.49, which represents an increase of 7.09% over fixed costs in Fiscal Year 2003 – 2004.

Q. **PLEASE EXPLAIN THE PROPOSED IRREGULAR COSTS.**

A. As I previously discussed, not all irregular costs can be known and measurable at the time an application is submitted. A total of $1,643,761.76 in various irregular project costs which we now know is summarized in Exhibits JWL-8 and JWL-12.

Q. **PLEASE EXPLAIN THE PROPOSED VARIABLE LABOR RATES.**

A. We have proposed the continued use of the variable labor rates identified in Order No. 2004-349 because we believe that those rates remain satisfactory predictors of variable labor costs for Fiscal Year 2004-2005.

Q. **PLEASE EXPLAIN THE PROPOSED VARIABLE COSTS FOR VAULTS.**

A. The actual variable cost rates for concrete disposal vaults used in Fiscal Year 2003–2004 were calculated using the same method as we used in previous years. Those actual rates were increased by 25% based on increased prices required by the vault manufacturer. The increased prices resulted from a number of economic factors, including increased steel prices and increased concrete prices.

Q. **PLEASE EXPLAIN THE PROPOSED VARIABLE NON-LABOR COSTS (OTHER THAN VAULT COSTS).**

A. Actual non-labor costs incurred in Fiscal Year 2003–2004 in variable cost projects form the basis for three new variable cost rates for Fiscal Year 2004–2005. Costs included in these new rates are contractor support for vault purchase and inspection, direct materials and supplies related to Class A, Class B, and Class C waste disposal, and materials and

supplies related to slit trench offloads. Fiscal Year 2003–2004 was the first year in which project costs were captured in fixed, variable, and irregular project numbers. By having those amounts, we have the opportunity to develop those new non-labor variable cost rates accurately.

Q. **DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

A. Yes.

Exhibits

JWL-1	High altitude photograph of the disposal site
JWL-2	Aerial photograph of the disposal site
JWL-3	Land-level photograph of disposal Trench 86
JWL-4	Land-level photograph of a typical B/C Trench
JWL-5	Revised Amended Application Exhibit A Page 1, Fixed Costs
JWL-6	Revised Amended Application Exhibit A Page 2, Variable Costs
JWL-7	Revised Amended Application Exhibit A Page 3, Irregular Costs
JWL-8	Revised Application Exhibit C, Fiscal year 2004 – 2005 Costs
JWL-9	Vault Loading History and Considerations
JWL-10	A Comparison of Connecticut Yankee Reactor Pressure Vessel RPV and the Big Rock Point RPV
JWL-11	Site Generated Waste Disposal Cost Savings
JWL-12	Fiscal Year 2004 – 2005 Proposed Costs

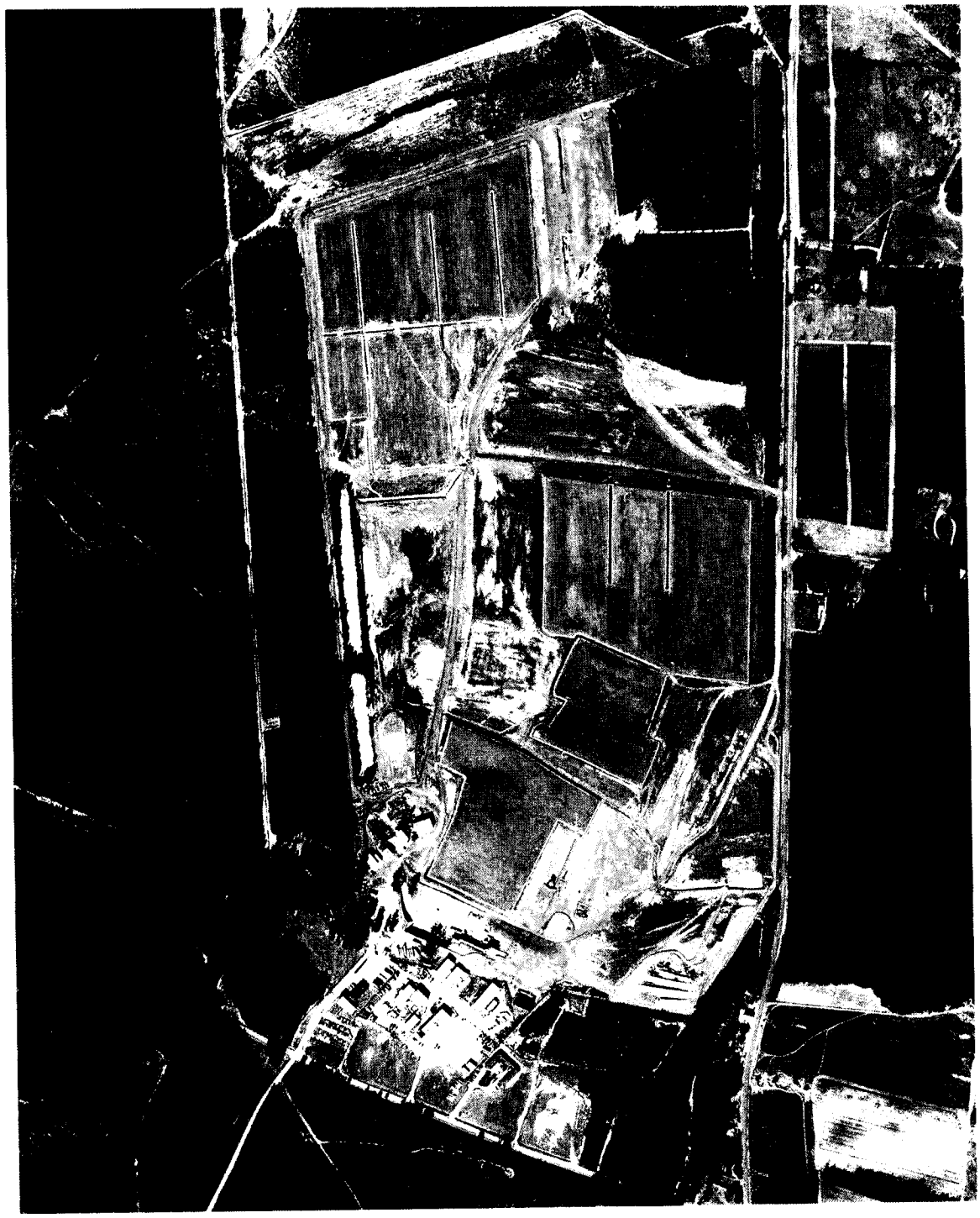


Exhibit JWL-1

Exhibit JWL-2

Exhibit JWL-3

Exhibit JWL-4

Exhibit JWL-5
REVISED AMENDED APPLICATION EXHIBIT A, PAGE 1:
FISCAL YEAR 2003 - 2004 COSTS

Fixed Costs: Adjustment Proposed

Fixed costs were incurred in Fiscal Year 2003 - 2004 in the general categories of labor-related costs, non-labor costs, costs allocated from corporate functions and fixed costs not subject to the 29% statutory margin. The following table compares the actual costs incurred to the costs identified as allowable in Commission Order No 2004-349:

	Commission Order No. 2004-349	**Actual Costs Incurred in FY 2003-2004**	**Adjustment Proposed**
Labor and Fringe	$2,656,177	$2,758,135	
Non-Labor	$1,299,646	$1,173,316	
Corporate Allocation (G&A)	$686,000	$892,551	
Fixed Costs not subject to 29% Margin	$625,000	$625,000	
Total Fixed Cost	$5,266,823	$5,449,002	$182,179

Exhibit JWL-6

REVISED AMENDED APPLICATION EXHIBIT A, PAGE 2:
Variable Costs: Adjustment Proposed

Variable Material (Vault) Costs

The following table illustrates the vault costs that would be calculated using the variable cost rates identified in Commission Order No 2004-349 and the volumes of waste received in each respective category.

	Volume Buried (cubic feet)	**Variable Cost Rate in Order 2004-349**	**Calculated Cost**
Class A waste	24,921.24	$22.83	$568,951.86
Class B waste	12,493.08	$23.78	$297,085.44
Class C waste	8,850.64	$23.57	$208,609.58
Slit Trench waste	1,325.00	$91.04	$120,628.00
Reactor Pressure Vessels	10,337.00	N/A	
Other Large Components (in vaults as an irregular cost)	1,588.54	N/A	
Total Vault Cost			**$1,195,274.89**

The total cost incurred for routine disposal vaults during FY 2003-2004 was $1,282,258.95. Therefore, we request an adjustment of $86,984.06 increase in this category of cost.

Variable Labor Costs

The variable labor rates identified in Commission Order No. 2004-349 predicted variable labor costs within about 15% of actual variable labor costs. No adjustment is requested in this category. We request the Commission identify $560,001 as the allowable variable labor amount for FY 2003 – 2004. This amount is $83,099 less than the amount calculated using rates identified in Commission Order No. 2004-349.

Exhibit JWL-7

REVISED AMENDED APPLICATION EXHIBIT A, PAGE 3:
IRREGULAR COSTS

The following table summarizes the irregular costs incurred in FY 03 – 04 organized by project numbers. Exhibit B provides additional descriptions of each of these irregular projects. The total costs incurred in FY 03 – 04 as irregular costs were $2,684,909.19 compared to the amount identified in Commission Order No. 2004-349 of $1,781,870. We therefore request the Commission identify $2,684,909.19 as allowable irregular costs for FY 2003 – 2004.

Irregular Cost Item	Basis For Order Amount (Blume Testimony Exhibit AA)	Actual FY 03-04 Labor	Actual FY 03-04 Non-Labor	Total Cost FY 03-04
Big Rock RPV	$70,114.00	$2,465.17	$60,409.24	$62,874.41
CT Yankee RPV	$352,321.00	$8,177.41	$345,220.04	$353,397.45
Other large components: CY RHX, four RCPs, Navy RSMAs (6) and leadscrews (6)		$11,475.81	$88,398.33	$99,874.14
West Swale Construction	$142,765.00	$47,096.16	$108,396.49	$155,492.65
Trench 96	$113,375.00	$4,955.47	$70,464.22	$75,419.69
Trench 86 Mods	$65,104.00	$1,729.18	$46,056.00	$47,785.18
Various Trenches: Trench 94 mods, Slit Trench 22, Slit Trench 23, Slit Trench 24, Slit Trench 22, start Trench 97		$27,412.83	$44,216.16	$71,628.99
Water and Sewer	$136,786.00			
Depreciation	$86,836.00		$94,967.21	$94,967.21
Insurance	$725,205.00		$929,585.46	$929,585.46
Decontamination and Corrective Actions		$10,520.72	$10,047.04	$20,567.76
Engineering Drawings		$38,544.85	$18,659.65	$57,204.50
Miscellaneous Irregular Projects		$14,342.73	$11,393.87	$25,736.60
License Renewal and Appeal costs		$24,194.05	$258.02	$24,452.07
B&CB support (irregular)		$8,708.88		$8,708.88
Other Irregular costs (PT&C, QA consultant)			$54,311.09	$54,311.09
Additional Irregular Non-Labor Costs			$480,132.03	$480,132.03
Prior Year Trench Cost Adjustments			($5,340.42)	($5,340.42)
Irregular Costs Subject to 29% Margin	$1,692,506.00			$2,556,797.69
Retention Compensation	$89,364.00	$83,541.84		$83,541.84
Legal Support (license Appeal)			$26,656.38	$26,656.38
Legal Support (EEO)			$17,913.28	$17,913.28

Exhibit JWL-8

EXHIBIT C:
FISCAL YEAR 2004 - 2005 COSTS

We propose the following amounts be identified as allowable costs for Fiscal Year 2004 - 2005:

FIXED COSTS	
Labor and Fringe	$2,854,670
Non-Labor	$1,431,801
Corporate Allocations	$923,790
(Management Fees / G&A)	
Costs to which the 29% margin is not applied	$625,000
Total Fixed Costs	**$5,835,261**
IRREGULAR COSTS	
Trench Construction	$60,000
Depreciation	$110,000
Insurance	$962,121
Free-flowing sand backfill	$100,000
Large Components	$70,000
Costs where the 29% margin is not applied (License appeal legal support and retention compensation)	$341,641
Total Irregular Costs	**$1,643,762**
VARIABLE COSTS	
Variable Labor Rates based on rates identified in Order 2004-349	
Vault Purchase and Inspection (per vault)	$82.47
ABC Waste Disposal (per shipment)	$882.47
Slit Trench Operations (includes laundry costs) (per slit trench offload)	$5,289.12
Waste Acceptance (per shipment)	$257.86
Trench Records (per container)	$51.65
Variable Material Costs (Vault) based on actual FY 03-04 rates plus supplier cost increase	
Class A Waste (per cubic foot)	$31.28
Class B Waste (per cubic foot)	$31.43
Class C Waste (per cubic foot)	$31.34
Slit Trench Waste (per cubic foot)	$115.93
Other Variable Material and Support Costs	
ABC Waste Disposal (per shipment)	$484.49
Slit Trench Operations (per slit trench offload)	$2,926.13
Vault Purchase and Inspection (per vault)	$11.02

Exhibit JWL-9

Vault Loading History and Considerations

Regulatory Basis for Vaults

South Carolina Radioactive Material License 097, issued by the South Carolina Department of Health and Environmental Control (DHEC), specifies requirements by which Chem-Nuclear Systems operates the Barnwell disposal facility. Condition 81 of License 097 requires all waste to be placed in vaults constructed in accordance with procedures, drawings, standards, and a quality assurance plan that have received approval from DHEC. Since 1996, Chem-Nuclear has buried all waste in DHEC-approved reinforced concrete vaults. These vaults are designed to improve long-term trench stability and also provide structural stability to waste packages. With DHEC's prior approval, large components such as steam generators, pressure vessels, or reactor coolant pumps are qualified for disposal using methods such as filling the shipping container with cement grout or defining the component exterior shell as comparable to a vault.

Concrete Vault Design

Primarily, three types of concrete disposal vaults are currently in use at the disposal site—rectangular, cylindrical, and slit trench vaults. From time to time, with DHEC approval, a specially constructed vault of slightly different dimensions from the three standard designs may be used to dispose of odd-sized or over-sized waste.

Vault Loading Summary

Vault loading in rectangular and cylindrical vaults is affected by:

- the classification (Class A, B or C) and stability (stable or unstable) of waste received;
- segregation of stable and unstable waste (i.e., placed in separate vaults);
- the types of waste packages received;
- the size of the waste packages received;
- package dose rates (and personnel radiological exposure considerations);
- handling precautions to maintain package integrity; and
- the amount of site-generated waste (including disposable coveralls, gloves, shoe covers, plastic materials used on the site and shoring materials from shipments) to be disposed of in a particular time interval.

For rectangular vaults, waste package size, shape, and rate of receipt all affect vault loading. If several van or flatbed shipments of waste are received at about the same time, packages may be selected to make better use of the available space in a rectangular vault. Rectangular vaults will allow placement of four B-25 boxes (typically about 95 cubic feet each), or eight OP-45 boxes (about 49 cubic feet each), or thirty-six 55-gallon drums (typically 7.5 cubic feet per drum). Van or flatbed-loaded waste is often received in a variety of packages other than these "standard" sized boxes and drums. As the number and frequency of van and flatbed shipments is reduced with declining waste volumes, our ability to select packages from various loads to achieve higher vault loading is also reduced. As the number of rectangular vaults is reduced with declining waste volumes, the space

available within the vaults for disposing of wood shoring from the shipments is also reduced. The shoring, blocking and bracing materials are placed in the vaults in spaces between the waste packages and the vault wall or lid, or in other available space in the disposal vault.

Slit trench vault loading is affected primarily by the size of the waste container that is offloaded horizontally from the transportation cask. Nearly all slit trench offloads are now made from a 3-55 cask or a TN-RAM cask. Only one 3-55 or TN-RAM liner (waste package) can be placed in each slit trench vault due to procedural requirements and personnel dose considerations. Personnel radiological exposure considerations preclude placing materials other than the offloaded liner in the slit trench vaults.

Waste Classification Volumes Received

The volumes (in cubic feet) of waste received for disposal at Barnwell by waste classification over the past five Fiscal Years are shown in the following table.

Waste Class	FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04
Class A (stable)	66,978	52,352	18,398	24,022	17,833
Class A (unstable)	51,677	33,604	16,681	11,463	8,604
Class B	22,054	19,804	12,128	10,362	12,566
Class C	11,110	20,228	10,556	19,809	20,513
Totals	151,819	125,988	57,763	65,655	59,515

The overall decline in Class A LLRW receipts over this period is largely a result of changes in the type of waste allowed for disposal at Envirocare of Utah (EoU). In 1997, EoU renewed their Utah radioactive materials license. As additional radionuclides were added to the EoU license, they were able to accept more and more low-activity Class A (unstable) waste. EoU received their full Class A license in October 2000. In October 2001, EoU received a license amendment which allowed them to receive all Class A waste in bulk form and containerized Class A waste once procedures were in place. EoU received their first shipments of containerized Class A waste in late 2001. Much of the containerized Class A waste is Class A (stable) waste.

Given the considerations described above, average vault loading by itself is an overly simplistic parameter. The waste disposed of in rectangular and cylindrical vaults in Trench 86 is lower dose material and the waste disposed of in the other trenches is higher dose (Some Class A (stable) and Class B and C waste packages). Slit trench waste is nearly all Class C waste. It is therefore necessary to examine vault loading based on the vaults placed in each trench.

Rectangular Vaults in Trench 86

Average rectangular vault waste loading in Trench 86 has been fairly consistent over the past four years. The drop in average rectangular vault volume from FY 99-00 to FY 00-01 is approximately concurrent with EoU's receipt of their full Class A license and reflects the shifting of Class A (unstable) waste to EoU in October 2000. The increase in average waste volume per vault between FY 02-03 and FY 03-04 is concurrent with implementation of a cost savings measure to compact some of the disposal site Dry Active Waste (DAW) using the box compactor located at a nearby company facility. The following table provides a summary of average waste loading in rectangular vaults in Trench 86 in each of the past five fiscal years.

	Rectangular Vaults in Tr-86 FY 99-00	Rectangular Vaults in Tr-86 FY 00-01	Rectangular Vaults in Tr-86 FY 01-02	Rectangular Vaults in Tr-86 FY 02-03	Rectangular Vaults in Tr-86 FY 03-04
Average vault waste vol. (cu.ft.)	**320.6**	**275.5**	**272.79**	**245.15**	**272.59**
Total volume	36,398.3	19,836	20,732.12	9,560.92	8,450.25
Number of Vaults	115	72	76	39	31

The following table provides the prior years history of vault use based on volumes of waste buried in each indicated calendar year. It should be noted that the years of 1999 and 2000 overlap with the fiscal year data shown in the preceding table.

	Rectangular Vaults in Tr-86 CY 1997	Rectangular Vaults in Tr-86 CY 1998	Rectangular Vaults in Tr-86 CY 1999	Rectangular Vaults in Tr-86 CY 2000
Average vault waste vol. (cu.ft.)	**319.29**	**314.4**	**313.11**	**307.83**
Total volume	102,174.14	78,599.89	49,785.01	25,858.04
Number of Vaults	320	250	159	84

Cylindrical Vaults in Trench 86

Cylindrical vault waste loading in Trench 86 has declined in average volume per vault largely as a reflection of the size containers received and handling restrictions on polyethylene High Integrity Containers (HICs). In late 1999, DHEC directed Chem-Nuclear to place additional low dose Class B and Class C waste packages in Trench 86. As EoU began to accept containerized Class A LLRW in late 2001 and as more Class B and Class C waste packages were placed in Trench 86, the average cylindrical vault loading in Trench 86 tended to be lower. Class B and Class C waste packages are generally a smaller size than the Class A waste packages.

	Cylindrical Vaults in Tr-86 FY 99-00	Cylindrical Vaults in Tr-86 FY 00-01	Cylindrical Vaults in Tr-86 FY 01-02	Cylindrical Vaults in Tr-86 FY 02-03	Cylindrical Vaults in Tr-86 FY 03-04
Average	**171.5**	**157.12**	**130.29**	**143.94**	**129.33**
Total volume	75,979.4	53,736	18,631.19	25,333.74	17,071.50
Number of vaults	440	342	143	176	132

The prior years history of waste buried in cylindrical vaults placed in Trench 86 is shown in the following table. The years of 1999 and 2000 overlap with data in the preceding table.

	Cylindrical Vaults in Tr-86 CY 1997	Cylindrical Vaults in Tr-86 CY 1998	Cylindrical Vaults in Tr-86 CY 1999	Cylindrical Vaults in Tr-86 CY 2000
Average	**180.87**	**175.86**	**177.11**	**165.92**
Total volume	40,152.36	25,147.27	54,725.77	61,059.21
Number of vaults	222	143	309	368

Cylindrical Vaults in Trenches 90, 92, 93, 95, and 96

Cylindrical vault average waste loading in Trenches 90, 92, 93, 95 and 96 (sometimes referred to as the Class B/C trenches) has been fairly consistent over the past five fiscal years.

	Cyl. Vaults in Tr 90 FY 99-00	Cyl. Vaults in Tr 92 FY 99-00	Cyl. Vaults in Tr-92 FY 00-01	Cyl. Vaults in Tr-93 FY 00-01	Cyl. Vaults in Tr-93 FY 01-02	Cyl. Vaults in Tr-93 FY 02-03	Cyl. Vaults in Tr-95 FY 02-03	Cyl. Vaults in Tr-95 FY 03-04	Cyl Vaults in Tr-96 FY 03-04
Avg.	116.22	124.9	129.47	124.56	122.54	122.85	133.79	121.65	125.92
Total vol.	3,719	27,974	11,134	25,161	25,733	9,705.4	12,442.9	16,422.84	8,311
# of Vaults	32	221	86	202	210	79	93	135	66

The prior years history of waste buried in cylindrical vaults in the Class B/C Trenches is shown in the following table. In March 1999, the US Nuclear Regulatory Commission and US Department of Transportation changed regulations governing the quantities of radioactive material that can be shipped in certain casks. The effect of these regulatory changes was that higher activity wastes (Class A (Stable), Class B and Class C) were shipped in smaller packages. The change in average waste loading per cylindrical vault between 1998 and 1999 reflects this regulatory change.

	Cyl. Vaults in Tr 88 in CY 1997	Cyl. Vaults in Tr 89 CY 1997	Cyl. Vaults in Tr-89 in CY 1998	Cyl. Vaults in Tr-90 in CY 1998	Cyl. Vaults in Tr-90 in CY 1999	Cyl. Vaults in Tr-92 in CY 1999	Cyl,. Vaults in Tr-92 in CY 2000	Cyl. Vaults in Tr-93 in CY 2000
Avg.	**146.76**	**143.13**	**151.49**	**150.33**	**129.03**	**125.16**	**128.76**	**123.2**
Total vol.	37,130	17,605.3	28,632.1	41,041.7	28,128	14,643.6	24,464.9	3,572.8
# of Vaults	253	123	189	273	218	117	190	29

On infrequent occasions during the years from 1997 to 1999, Class B or Class C waste was received in packages that were too large to place in a cylindrical vault. In these cases, a rectangular vault was placed in the B/C trench and the over-sized or odd-sized Class B and Class C waste packages were placed in the rectangular vault.

Year	1997	1998	1999
Trench	88	89	90
Number of Rectangular Vaults	1	1	1
Waste Volume (cu.ft.)	203.5	131.18	173.46

The standard concrete disposal vaults in use at the disposal site accommodate most waste packages and provide additional structural stability. Inherent in placing waste packages in the concrete disposal vaults is the creation of some void spaces inside the loaded vault. To the extent possible, given considerations for personnel radiation exposures from the waste packages, personnel contamination from loose surface radioactivity, the size and shape of the waste packages, and the type of material from which the waste package is constructed, other materials can be placed in the spaces formed between the waste packages and the disposal vault and between or among waste packages in the vault. The materials placed in these available spaces are generally wood shoring, blocking and bracing materials used in the shipment of waste to the disposal site. Other materials such as solidified liquids resulting from the site waste package inspection program, Dry Active Waste (DAW, including rags, bags, gloves, shoe covers, etc) are packaged in convenient containers and placed in the disposal vaults.

Exhibit JWL-10

A Comparison of the Connecticut Yankee Reactor Pressure Vessel (RPV) and the Big Rock Point RPV

The price for disposal of large components, such as RPVs, does not include any transportation or rigging costs enroute to the disposal site, but does cover the costs of services to move the RPV within the licensed boundary of the disposal site and the off loading onto the disposal location. Moving RPVs on disposal site property cannot be performed with existing Chem-Nuclear equipment. If the company performing the transportation and rigging of the large component to the disposal site is an approved Chem-Nuclear vendor, Chem-Nuclear may seek to contract them to perform the onsite work.

The transportation and rigging costs associated with the movement of a large component are impacted by the weight and size of the component. Two significantly different sized Reactor Pressure Vessels (RPVs) were received for disposal at the Barnwell low-level radioactive waste disposal facility in Fiscal Year 2003-2004. One RPV came from Consumers Energy Big Rock Point Site (BRPS). The other RPV came from the Connecticut Yankee Atomic Power Company (CYAPCO) Haddam Neck Plant in Haddam, CT. Both RPVs were packaged in a steel can that formed a right circular cylinder laid horizontally and filled with grout.

The following table provides a size comparison of the two RPVs.

	Length (ft)	Diameter (ft)	Weight (tons)	Disposal Volume (cu.ft.)
BRPS	25	13	282.5	2827
CYAPCO	35.3	17.8	700	7507

BRPS contracted with Duratek for the transportation of the RPV to the Barnwell site, and Duratek subcontracted with Lockwood Brothers. Chem-Nuclear has worked with Lockwood in the past, and found them to be an acceptable transporter. Chem-Nuclear subcontracted with Lockwood Brothers for the transport of the RPV from the site gate to the trench, and for off loading services.

CYAPCO contracted with Bigge for transportation of the RPV to the Barnwell site. Chem-Nuclear had worked with Bigge in the past, and found them to be an acceptable transporter. When Chem-Nuclear contacted Bigge to arrange subcontracting services for transport from the gate to the trench, and for offloading services, Bigge requested that Chem-Nuclear contact CYAPCO and subcontract through them. Subsequently, Chem-Nuclear arranged subcontracting services for transport from the gate to the trench, and for offloading services with CYAPCO, with Bigge performing the work.

By looking at the size comparisons of the table above, we can see that the CYAPCO RPV was over twice the weight of the BRPS RPV. CYAPCO'S RPV was a little over 10 feet longer and over four feet larger in diameter than the BRPS RPV. These size differences required the use of different equipment and associated crew for the transport of the RPVs from the site gate into the

disposal location in the trench. The following table provides an equipment and crew comparison:

	Transport Equipment: Trailer	Transport Equipment: Tractor	Transport Crew Size
BRPS	12-line, single file, hydraulic platform (~10'wide x ~60'long)	1 3-axle prime mover	3
CYAPCO	16-line, two-file, hydraulic platform (~19'wide x `80'long)	1 3-axle prime mover	4

Once the RPV is in the trench, it must be off loaded from the transporter and placed in the disposal location in the trench. This requires the use of hydraulic jacks or a crane, depending on the size of the RPV. The BRPS RPV was the smaller of the two, and could be removed from the transport trailer platform using a four-leg gantry crane rated at 500 tons. This gantry crane could not be used for the CYAPCO RPV, which weighed 700 tons, or 200 tons over the rated limit. The CYAPCO RPV required the use of four 400 ton hydraulic jacks to lift the RPV and place it in position in the trench. This operation required an additional crew person as well as more time to perform the off load.

Additional off load equipment comparisons are shown in the following table:

	Cribbing Mats	Other	Off Load Crew Size
BRPS	2 sets	1 set rigging hardware (slings and shackles)	6
CYAPCO	4 sets for jacks 1 set for disposal		7

One of the many considerations of a large component disposal is weight considerations of the component on the floor of the trench. Two criteria must be considered:

1. the stability of the component in the trench and,
2. the allowable soil bearing pressure.

To meet these two criteria, large RPV's are disposed of using a saddle/skid that keeps the load stable under lateral loading. The CYAPCO RPV had a larger footprint area and a more robust support structure was needed to satisfy the trench loading and stability criteria. Chem-Nuclear could have had engineers design a skid frame for the CYAPCO RPV. Before spending the money to do this, a review of the transportation skid design was undertaken. It was determined that the skid frame used for the transportation of the package to the Barnwell site met the criteria for disposal. Chem-Nuclear subcontracted with CYAPCO to use the transportation skid for disposal, and for the transport services from the Barnwell facility gate to the disposal location in the trench. For these services, CYAPCO invoiced Chem-Nuclear for a total of $340,000. In preparation for the Public Service Commission proceeding, Chem-Nuclear asked CYAPCO to

provide a cost breakdown for the subcontracted services. CYAPCO provided a breakdown of $290,000 in transportation costs and $50,000 for the cost of the transportation skid.

The $50,000 cost for the skid appeared to be reasonable when compared to the costs of lifting the RPV off the transportation skid and placing it on disposal saddles. The following table provides a cost estimate breakdown for use of disposal saddles:

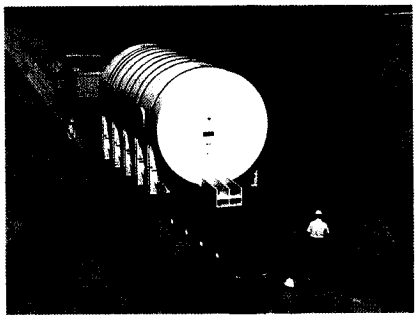
Labor for dedicated disposal saddles (engineering design, manufacturing & management)	$41,464
Travel & Expenses	$214
Supplies & Material	$114
Subcontractor: Rigger (lifting off existing skid and place on disposal saddles)	$175,788
Subcontractor: Hittman Transport for shipping two dedicated disposal saddles from fabricator to Barnwell facility	$2,090
Fabricator	$93,725
Cribbing under disposal saddles to meet Barnwell loading limits	$3,449
TOTAL COST ESTIMATE	$316,845

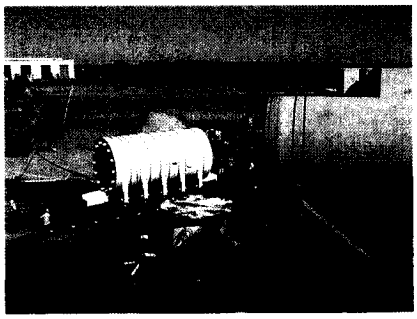
When the cost of using disposal saddles is compared to the $50,000 cost for purchasing the transportation skid to be used as the disposal skid, a savings of $266,845 is realized.

If the RPV's size and mass is low enough, like the BRPS RPV, a cradle will provide the stability in the trench. Cribbing was fabricated and positioned in the trench to distribute the load of the 300 ton RPV.

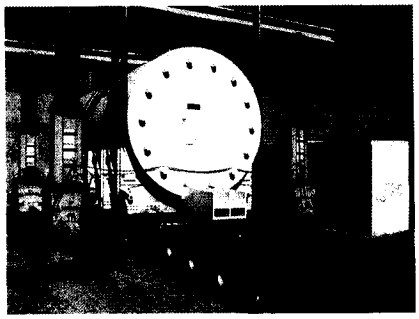
The following pictures illustrate the differences in the RPVs and the transport into the burial trench:

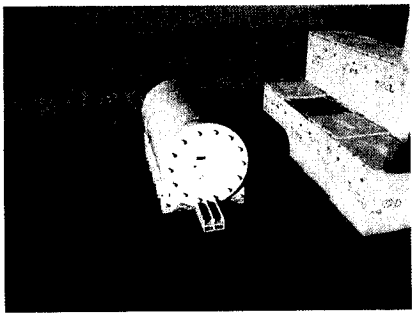
(see next page)





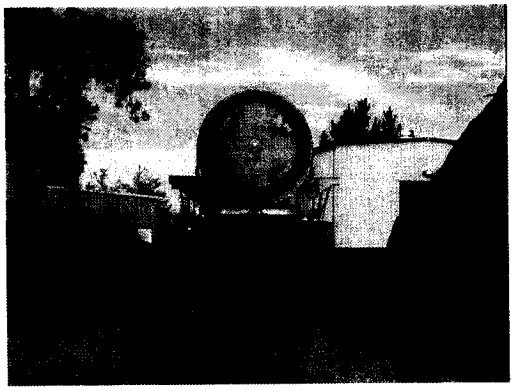
The transport trailer backs into the trench and to the final disposal location. For the BRPS, a four-leg gantry crane is used to life the RPV off of the trailer platform and onto the trench floor. Note the rigging hardware (slings and shackles) around the front of the RPV (in green). When the transporter pulls away and the gantry crane is removed, the RPV is all that is left.





CYAPCO RPV

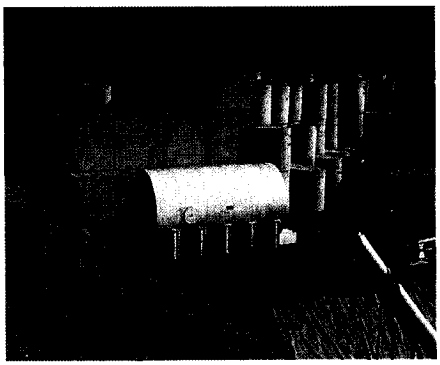
The RPV loaded on the trailer. Note the wider width of the trailer below in comparison to the trailer above. The red trailer is longer, wider, has more wheels, and is capable of carrying much heavier loads.



RPV IN TRENCH 86

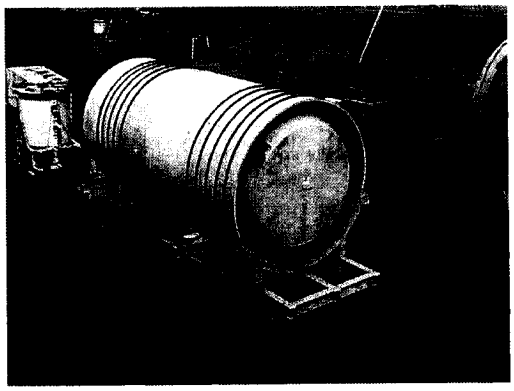
BRPS RPV:

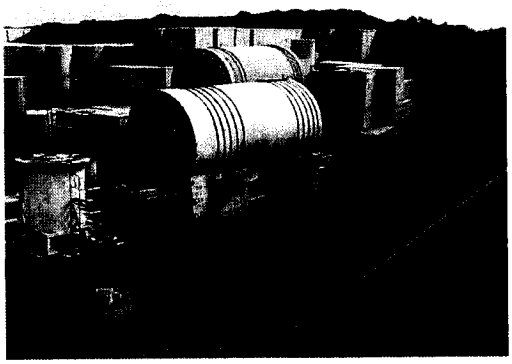
The relative size of the BRPS RPV can be seen by comparing the diameter of the cylindrical container (13 feet) to the height of the adjacent rectangular concrete disposal vaults (approximately 11 feet). The rib like structures on which the cylinder rests are an integral part of the container.



CYAPCO RPV:

The larger size of the CYAPCO RPV is illustrated in the following pictures. In the picture on the left, the green sealand container immediately to the right of the RPV is eight feet tall and eight feet wide. The skid arrangement on which the RPV container rests is a separate structure and the RPV container is held in place by heavy cables.





The next two pictures form a panoramic view of Trench 86. The BRPS RPV is to the left (north side of the trench) and the CYAPCO RPV is to far the right (south side of the trench).

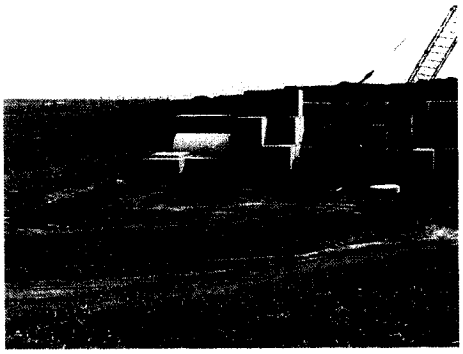


Exhibit JWL-11

Site Generated Waste Disposal Cost Savings

Materials or wastes generated as a result of site operations are generally disposed inside concrete disposal vaults. These materials include: blocking and bracing materials used in radioactive material shipments received at the disposal site, disposable Personnel Protective Equipment (PPE), plastic shoe covers, plastic bags, rags, vacuum cleaner residue, and other similar materials. Most of the site-generated waste is classified as Dry Active Waste (DAW). In some cases, the volume of the DAW to be disposed in vaults can be reduced by compacting the waste with a box compactor. In other cases, the material itself, its dose rate or contamination levels may preclude compacting. The compactor at the Duratek Consolidation and Services Facility (DCSF) near the disposal site was used to process some site-generated DAW. The following table illustrates the cost savings achieved in FY 03-04 (a total of $24,486) by this compacting process:

Date	Original DAW Volume (cu.ft.)	DAW Weight (lbs)	Disposal Vaults Required for Uncompacted DAW	Uncompacted Disposal Vault Cost	Compacted DAW Volume (cu.ft.)	Disposal Vaults Required for Compacted DAW	Compacted Disposal Vault Cost	Cost to Compact ($1.50 per lb.)	Compacted DAW Total
Jul 03	1,024.00	4,216	2.14	$14,971.44	122.00	0.25	$1,749.00	$6,324.00	$8,073.00
Dec 03	1,024.00	4,906	2.14	$14,971.44	152.00	0.32	$2,239.00	$7,359.00	$9,598.00
Mar 04	927.50	3,480	1.94	$13,572.24	107.00	0.22	$1,539.00	$5,634.00	$7,173.00
Apr 04	927.50	3,480	1.94	$13,572.24	106.00	0.22	$1,539.00	$6,217.50	$7,756.50
Total				$57,087.56				$25,534.50	$32,600.50

Assumptions:
The internal volume of a standard rectangular concrete disposal vault is 680 cubic feet.
The maximum waste loading in a rectangular vault in FY 02-03 was 478.88 cubic feet.
Rectangular disposal vaults cost $6,996.
Costs to compact the DAW into a metal box at DCSF in FY 03/04 were $1.50 per pound.

Exhibit JWL-12

FISCAL YEAR 2004 – 2005 PROPOSED COSTS

Fixed Costs

	Actual FY 03-04	Additional Cost	Inflation Factor	Proposed FY 04-05	Change from FY 03-04	% Change	Remarks
Labor	$2,758,135.67	$0	3.50%	$2,854,670.42	$96,534.75	3.50%	Normal labor increase
Non-Labor	$1,173,315.64	$230,410.52	2.00%	$1,431,800.68	$258,485.04	22.03%	Additional costs and 2% overall non-labor cost increase. See Note 1
Corp Alloc (G&A)	$892,551.10		3.50%	$923,790.39	$31,239.29	3.50%	G&A is mostly labor-related costs, therefore applied normal labor increase rate
Fixed Costs w/o 29%	$625,000.00	$0	0.00%	$625,000.00	$0	0.00%	No increase
Total Fixed Costs	**$5,449,002.41**			**$5,835,261.49**	**$386,259.08**	**7.09%**	

Irregular Costs

	Actual FY 03-04	Additional Cost	Inflation Factor	Proposed FY 04-05	Change from FY 03-04	% Change	Remarks
Trench construction	$194,833.86			$60,000.00			Fewer trenches constructed FY 04-05
Retention compensation	$83,541.84	$5,000.00	3.50%	$91,640.80			Full amounts anticipated to be paid plus normal labor rate increase.
License Appeal	$38,099.91			$250,000.00			Preparation and participation in a week-long hearing
Depreciation	$94,967.21			$110,000.00			Additional items added to asset list
Insurance	$929,585.46		3.50%	$962,120.95			Some increase in insurance costs anticipated
Free-flowing sand	N/A			$100,000.00			New requirement from SC DHEC
Large Components (CY loop isol valves and piping)				$70,000.00			Connecticut Yankee Reactor Coolant stop valves and piping, Navy refueling component boxes
Total Irregular				**$1,643,761.76**			

Variable Costs

Variable Labor

Description	Independent Variable	Total FY 03-04		Actual FY 03-04 Labor	Actual Variable Labor Rate	Order 2004-349	Proposed FY 04-05	
Vault Purchase & Inspection	Total Vaults	388	vaults	$23,412.97	$60.34	$82.47	$82.47	Same rate proposed for FY 04-05 as identified for FY 03-04
ABC Waste Disposal	Ship.-Slit	378	shipments	$323,470.03	$855.74	$882.47	$882.47	Same rate proposed for FY 04-05 as identified for FY 03-04
Slit Trench Ops	Slit	23	slit trench	$86,026.14	$3,740.27	$5,289.12	$5,289.12	Same rate proposed for FY 04-05 as identified for FY 03-04
Waste Acceptance	Ship	401	shipments	$90,183.94	$224.90	$257.86	$257.86	Same rate proposed for FY 04-05 as identified for FY 03-04
Trench Records	Containers	1,016	containers	$36,907.61	$36.33	$51.65	$51.65	Same rate proposed for FY 04-05 as identified for FY 03-04

Variable Non-Labor (other than vaults)

Description	Independent Variable	Total FY 03-04		Actual FY 03-04 Labor	Actual Variable Labor Rate	Order 2004-349	Proposed FY 04-05	
Vault Purchase & Inspection	Total Vaults	388	vaults	$4,192.50	$10.81	$11.02		New non-labor (other than vaults) variable cost rate
ABC Waste Disposal	Ship.-Slit	378	shipments	$179,547.57	$474.99	$484.49		New non-labor (other than vaults) variable cost rate
Slit Trench Ops	Slit	23	slit trench	$65,981.44	$2,868.76	$2,926.13		New non-labor (other than vaults) variable cost rate

Vault Costs

	Order 2004-349	Actual Rate FY 03-04 Per Cubic Foot	Vendor Increase	Proposed Rate FY 04-05 Per Cubic Foot	
Class A	22.83	$25.02	25%	$31.28	Vault cost rates using methods previously approved, plus vendor price increase
Class B	23.78	$25.14	25%	$31.43	
Class C	23.57	$25.07	25%	$31.34	
Slit Trench Waste	91.04	$92.74	25%	$115.93	